

Hydrologic Forecast for Augusta/Elk Creek

CONDITIONS 05/10/2020

Lewis & Clark County Water Quality Protection District

SUMMARY

Elk Creek is a non-gauged stream, therefore USGS gauging station 0608220 (Sun River below Willow Cr) and USGS gauging station 06079000 (South Fork Sun River near Augusta MT) are used as surrogates to evaluate the timing of spring runoff and may be used to track rising river stage in the area.

Streamflows have fallen in the past week since their early season peak on May 1st. Snow-water-equivalent (SWE) at mid elevations (~6,000') is near normal conditions for this time of year, with cooler temperatures and precipitation forecast over the next week. This could mean swollen creeks with the potential for precipitation-induced flooding. It is possible that segments of Elk Creek may experience unpredictable response to spring runoff due to infrastructure damage and/or channel disruptions from the events of 2018 and 2019.

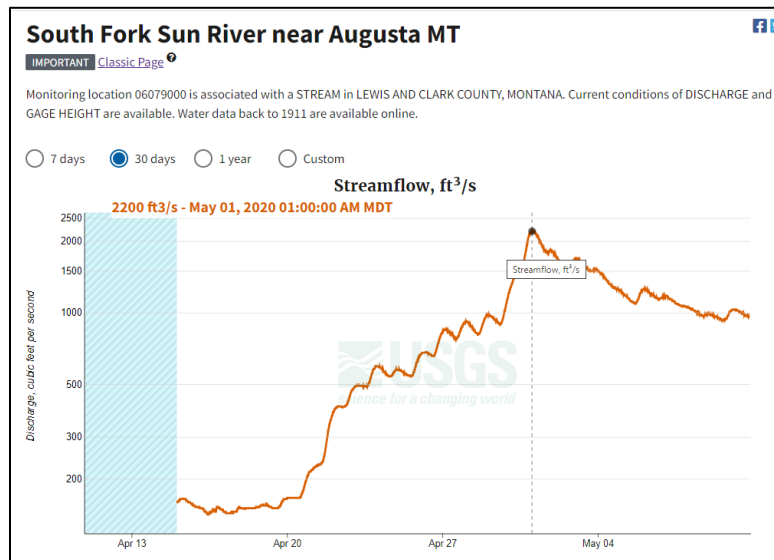
Residents should keep track of weather patterns for increasing temperature and precipitation events which could change streamflows rapidly. With snowpack near average levels for this time of year, intense and sustained snow-melt runoff is not expected, however precipitation events, like those forecast for this week, can contribute to flooding especially during periods of spring snowmelt.

The following data and information is used to evaluate hydrologic conditions in the Elk Creek drainage. Hydrologic response of Elk Creek is predominantly a result of three factors.

1. Surrogate **streamflow**
<https://waterdata.usgs.gov/monitoring-location/06082200>
<https://waterdata.usgs.gov/monitoring-location/06079000>
 2. **Snowpack** snow water equivalent (SWE) at the Wood Creek SNOTEL Station west of Augusta
<https://www.nwrfc.noaa.gov/snow/snowplot.cgi?WODM8>
 3. Short-term Augusta 5-day weather (**precipitation and temperature**) projection from the National Weather Service
<https://forecast.weather.gov/MapClick.php?lat=47.4927&lon=-112.3938#.XpooZUZKjGg>
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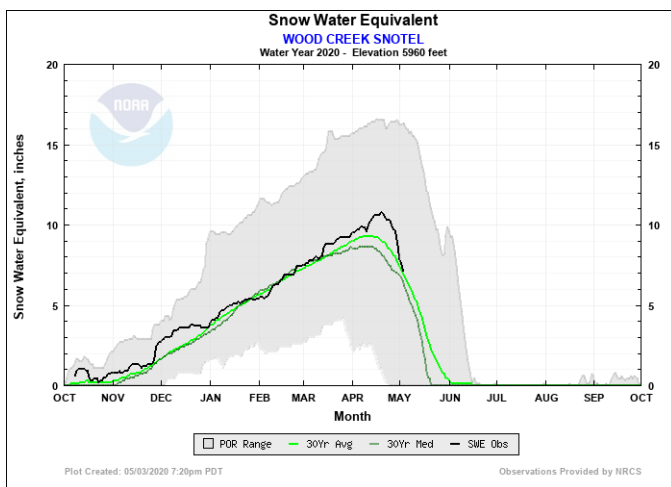
1. STREAMFLOW

Streamflow at the South Fork Sun River gauging station over the past 30 days is shown below. Note May 1st peak with warm weather. Flows have been dropping since.

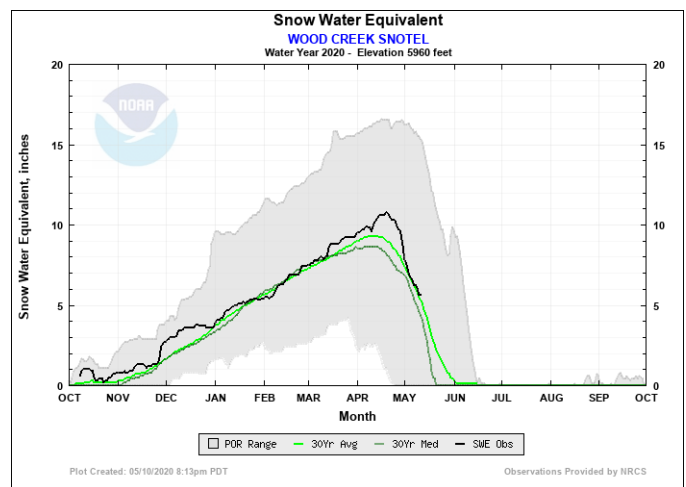


2. SNOWPACK (SWE)

SWE at Wood Creek is at 5.6" which is very close to the 30-year average. Plots below show loss of Wood Creek snowpack (**black line**) in the past week.



SWE May 3



SWE May 10

3. WEATHER

Monday through next Thursday...Cooler temperatures and precipitation is forecast for the region through Thursday. Snow is likely at lower elevations with >4" of snow at higher elevations.